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FITZPATRICK CELLA HARPER & SCINTO
30 ROCKEFELLER PLAZA
NEW YORK, NY 10112

EXAMINER

WOODS, ERIC V

ART UNIT	PAPER NUMBER
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2628

DATE MAILED: 10/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/626,723	Applicant(s) NAKANO ET AL.	
	Examiner Eric Woods	Art Unit 2628	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 16 August 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4,5,7-10 and 12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4,5,7-10 and 12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

Applicant's arguments filed 8/16/2006 have been fully considered but they are not persuasive.

Firstly, examiner appreciates applicant's amendments to the claim to clarify that the recited 'means' are generic functional elements (e.g. replacing 'means' with 'unit'). Since applicant has not contested examiner's analysis that the 'step' elements in claim 9 are not subject to 35 USC 112, sixth paragraph, that represents an acquiescence on this particular point, and is regarding as binding.

Applicant has also not argued the propriety of combining the various references.

Applicant's arguments with respect to patentability can be summarized as follows: the amended claim recites 'a predetermined shift pattern selected from a plurality of shift patterns' and this is different from the random shifts of Abe.

However, it is pointed out that regardless of which way this is read (e.g. that a shift is direct from the center point to some surrounding point by a direct shift or by some circuitous manner) the total number of finite shift paths is inherently bounded, even in a random selection (e.g. for the interpretation of a direct shift, for the recited five pixels, there are $(2n)^2 - 1 = 99$ possible shift locations (or direct shift paths) and for the circuitous manner (e.g. random shift from one pixel to another, continuing in a constant direction, assuming that the shifted pixel is within the bounded 5 pixel range) there is a maximum of $n^n [5^5 (3125)]$ or $(2n)^n [10^5 (100,000)]$ possible shift paths, depending on how one reads the claim. In any case, the set is finite and bounded, regardless of the

optimized range (5 is given as an example), and will remain bounded since any of the forms $[(2n)^2-1]$ or $[n^n]$ or $[(2n)^n]$ are finite and bounded (possibly quite large, but nonetheless not having any infinite or transfinite terms).

The Abe reference determines shift patterns in a **pseudo-random** manner, since it is a computer processor not specifically attached to an external RNG. This is important, since a PRNG is predictable in some manner and is not truly random. In any case, the aforementioned “plurality of shift patterns” merely constitutes the bounded, finite set of locations that the Abe reference would move the image to.

It is further stated that the primary references involve shifting an image to occluding the main viewing device, so it therefore would be obvious that there would be a bounded range that an image could be shifted in any case without occluding the user's view, therefore leading to the previous discussion in the last OA concerning the desire to find a range within a range concerning shifting the window.

The claim amendments do not recite any teaching of how such a selection is made. Clearly, a pseudo-randomly selected shift path **within a finite, bounded set** constitutes a ‘predetermined shift path’.

Examiner submits that based on the above discussion and the nature of the primary references and the nature of the problem to be solved (shifting the PIP window to avoid blocking the user's view, and the Abe reference's goal of avoiding screen burning), it would have been obvious to one of ordinary skill in the art at the time the invention was made that a predetermined shift path would be a pseudo-randomly

selected one in keeping with the above teachings. For at least these reasons, the examiner's rejection of all claims under 35 USC 103(a) should be upheld.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ward and Abe in view of Sumikawa (US 6,040,817 A).

As to claims 1 and 9,

An image processing apparatus, comprising:

-Input means for inputting first image data and icon image data; (Ward teaches in Fig. 1 the use of a display device in [0028] that could be a television or PC monitor, wherein it takes in video from cable television or the like [0029], and in Fig. 1 in the upper left hand corner there is a PIP (picture-in-picture) window 12 clearly labeled as showing video, and the other windows show other content and/or image data)(Sumikawa teaches the

use of input means, e.g. a mouse and/or other pointing device. There is also a screen containing multiple windows, see for example Figure 4.)

-Determining means for determining a display position of the icon image; and

(The embodiment shown in Fig. 1 has fixed window position and size [0028], but other embodiments within Ward have user-adjustable window position, size, and content, see [0028-0029] and particularly [0168], where it is taught that the user can manipulate the various windows, especially the PIP window, as far as size and position, and that it can show multiple video streams simultaneously. The remote control shown in Fig. 2 can be used to position the various windows)(Sumikawa teaches that (4:35-50) the icon image (e.g. second window) is moved a position from the cursor, which comprises determining the display position of icon image)

-Display control means for superimposing one of the first image and the icon image on the other and displaying the first and icon images on a monitor such that the icon image is positioned in the display position determined by the determining means, (Other embodiments within Ward have user-adjustable window position, size, and content, see [0028-0029] and particularly [0168], where it is taught that the user can manipulate the various windows, especially the PIP window, as far as size and position, and that it can show multiple video streams simultaneously. The remote control shown in Fig. 2 can be used to position the various windows)(Sumikawa clearly shows main window, cursor, and secondary window in various positions as superimposed, again see Figure 4)

-Wherein the determining means determines successively a plurality of display positions different from each other as display positions of the icon image, and wherein the

plurality of display positions are within a range of a predetermined number of pixels from a predetermined position. (Other embodiments within Ward have user-adjustable window position, size, and content, see [0028-0029] and particularly [0168], where it is taught that the user can manipulate the various windows, especially the PIP window, as far as size and position, and that it can show multiple video streams simultaneously. The remote control shown in Fig. 2 can be used to position the various windows as set forth in [0168], where the number of pixels for movement would be determined based on the user's selection.)(Sumikawa clearly shows in 4:35-50 and 4:65-5:5 that the window is positioned at a certain distance from the cursor in such a way that it does not cause an impediment to the operation.)

Abe clearly teaches in the abstract that the window is moved and sized dynamically based on random numbers, etc., as further illustrated in paragraphs [0008-0015] in the specification / detailed description where the first and second windows can each contain various images or similar and move around all over the screen, which is the teaching of the this claim, basically that a second window is moved around a first window based on a determining means, as recited in the specification that would contain a random number or similar.

While reference Ward teaches all of the limitations as set forth above, since the claim recites 'means' the Abe reference is incorporated because it performs essentially the same tasks, but under automatic program control rather than the user performing such a task, and obviously the techniques that allow the system of Abe to automatically resize and reposition windows could be used with the system of Ward such that the

windows (e.g. main guide window and the PIP window) are resized, repositioned, etc. automatically until the user sees a combination that is ideal for their tastes and preferences. The Sumikawa reference clearly teaches that the second window is positioned at a certain other position with respect to the cursor and/or arrow position on the screen, where it would be obvious that the teaching of having the secondary window close but not at a point where it would be an impediment to viewing and/or operation would be obvious, and is well known to be beneficial (4:35-5:5).

Obviously, resizing the window would be an obvious variation, and the motivation for combination comes from the fact that an automatic method of performing a manual task is more efficient and more likely to quickly generate the desired results for the user than manually incrementing each window, which is obviously a tedious process. It would have been obvious to one of ordinary skill at the time the invention was made to modify Ward in light of Abe and Sumikawa, since Sumikawa teaches that the positioning of the secondary window within a certain amount of the main window is beneficial, which would yield the invention of applicant. Also, the incorporation of Sumikawa would allow for better and quicker positioning of the secondary window such that while it moved, it did not interfere with the user's viewing, as Abe possibly could.

The recited 'icon image' is not specifically defined by the specification and could be an OSD control menu, advertising, a window containing user tools (e.g. as in Sumikawa Figure 4C), or anything else. Examiner is interpreting it as broadly as reasonable (In re Morris).

See above response in Response to Arguments concerning the added limitation, which is incorporated by reference in its entirety.

Claims 1-3, 4-5, 7, and 9-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dimitrova in view of Abe and Sumikawa. Claim 9 is merely a method implementing apparatus of claim 1; rejections valid on one are equally valid on the other.

As to claims 1 and 9,

An image processing apparatus, comprising:

- Input means for inputting first image data and second image data; (Dimitrova 1:5-37 teaches PIP (picture-in-picture) technology where a first and second video image are displayed on the same screen, which prima facie includes input means)
- Determining means for determining a display position of the second image; and (Dimitrova teaches that the PIP picture can be positioned and sized by the user and that this is well known in the art (1:5-37, emphasis on 1:32-37), and further that Dimitrova teaches automatic means for doing so – see the flowchart in Fig. 4, wherein Dimitrova teaches that the PIP moves around to regions of the video image with the least change so that it stays out of the way, and that the size and position of the PIP window are automatically adjusted – see for example steps 116, 128, and 130) (Sumikawa teaches the use of input means, e.g. a mouse and/or other pointing device. There is also a screen containing multiple windows, see for example Figure 4.) (Sumikawa teaches that

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(4:35-50) the icon image (e.g. second window) is moved a position from the cursor, which comprises determining the display position of icon image)

-Display control means for superimposing one of the first image and the second image on the other and displaying the first and second images on a monitor such that the second image is positioned in the display position determined by the determining means,

(Dimitrova teaches that the PIP picture can be positioned and sized by the user and that this is well known in the art (1:5-37, emphasis on 1:32-37), and further that Dimitrova teaches automatic means for doing so – see the flowchart in Fig. 4, wherein Dimitrova teaches that the PIP moves around to regions of the video image with the least change so that it stays out of the way, and that the size and position of the PIP window are automatically adjusted – see for example steps 116, 128, and 130) (Sumikawa clearly shows main window, cursor, and secondary window in various positions as superimposed, again see Figure 4)

-Wherein the determining means determines a display position of the second image such that the display position is changed within a range that is apart from the display position determined last time by a predetermined number of pixels.

(Dimitrova teaches that the PIP picture can be positioned and sized by the user and that this is well known in the art (1:5-37, emphasis on 1:32-37), and further that Dimitrova teaches automatic means for doing so – see the flowchart in Fig. 4, wherein Dimitrova teaches that the PIP moves around to regions of the video image with the least change so that it stays out of the way, and that the size and position of the PIP window are

automatically adjusted – see for example steps 116, 128, and 130) (Sumikawa clearly shows in 4:35-50 and 4:65-5:5 that the window is positioned at a certain distance from the cursor in such a way that it does not cause an impediment to the operation.)

Abe clearly teaches in the abstract that the window is moved and sized dynamically based on random numbers, etc., as further illustrated in paragraphs [0008-0015] in the specification / detailed description where the first and second windows can each contain various images or similar and move around all over the screen, which is the teaching of the this claim, basically that a second window is moved around a first window based on a determining means, as recited in the specification that would contain a random number or similar.

Sumikawa clearly teaches moving a window a predetermined number of pixels or predetermined distance from another image (an icon or cursor, which could easily be another window, particularly in light of the teaching of Dimitrova).

The three references are obviously directed to the same problem solving area, that of positioning a window on a monitor with a second window and also are analogous art, as they both move a window automatically based on how the computer program instructs them to do, based on (in the case of Dimitrova) characteristics of the video (e.g. motion, texture, etc.) or random numbers (Abe).

While reference Dimitrova teaches all of the limitations as set forth above, since the claim recites 'means' the Abe reference is incorporated because it performs essentially the same tasks, but under automatic program control rather than the user performing such a task, and obviously the techniques that allow the system of Abe to

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automatically resize and reposition windows could be used with the system of Ward such that the windows (e.g. main guide window and the PIP window) are resized, repositioned, etc. automatically until the user sees a combination that is ideal for their tastes and preferences. Obviously, resizing the window would be an obvious variation, and the motivation for combination comes from the fact that an automatic method of performing a manual task is more efficient and more likely to quickly generate the desired results for the user than manually incrementing each window, which is obviously a tedious process, and the system of Abe would be ideal for situations where only part of the video was moving, e.g. two persons sitting at dinner table and the window could be randomly positioned in one of many areas of low activity around the edge of the screen as Dimitrova does (1:40-2:6).

Furthermore, if the user were operating the screen, and the secondary window were an OSD of functions for controlling the display device (as is typical), one would not want this overlapping the main window. This scenario is certainly one similar to that envisioned by Sumikawa – see for example Figure 4, 4:35-5:5, and the like, where the secondary window is kept within some distance of the location where the user's attention is focused, e.g. the system has a cursor or pointing device or some other indicator or user's attention. Dimitrova would therefore be modified in light of Sumikawa to keep the other window or edit menu or the like within a certain distance of the main window but out of the way so that the user could easily access it without impeding operations.

The recited 'icon image' is not specifically defined by the specification and could be an OSD control menu, advertising, a window containing user tools (e.g. as in Sumikawa Figure 4C), or anything else. Examiner is interpreting it as broadly as reasonable (In re Morris).

See above response in Response to Arguments concerning the added limitation, which is incorporated by reference in its entirety.

As to claims 2 and 10, the Dimitrova reference is 1:5-37 emphasizes that the PIP signal can be turned off (1:5-15), which would constitute "instruction means" for turning on or displaying the second image; Abe clearly performs this task in [0018] where it states that after a certain amount of time, if it does not get an input, it then in [0019] generates the first window and then the second window and moves it around [0019-0020] as per computer program [0030-0031], which clearly qualifies as instruction means. The initial position of the object (if it is an animation, etc.) is set by the computer program [0008], [0019-0021], and [0029-0031], which then causes the determining means to display the second window only when the conditions (e.g. a fixed time with no user input exceeded) has occurred or when the user instructs the TV to turn on the PIP image. Motivation and combination is taken from the parent claim.

As to claim 3, as shown in Fig. 4 Dimitrova repositions the image [1:40-2:10] in areas of low activity or change on the main screen, which is "arbitrary" and Abe changes the location as based on a random number (see "Constitution" section of the Abstract for example). Motivation and combination is taken from the parent claim.

As to claims 4 and 12, Dimitrova does expressly teach this limitation. Reference Abe teaches in the Abstract that the image is moved around based on random numbers, where in [0008-0009] it is stated that the conventional screen saver would be confined to one region of the screen and still would cause burn-in ("seizure of screen" is the terminology the Japanese translation uses) of the CRT, thusly in [0013-0015] it is stated that the second image (e.g. the moving one as shown in Fig. 1) moves all over the screen and never stays beyond a fixed time to prevent burn-in. Obviously, this is the case where a minimum time is not exceeded. Given that the stated goal of Abe is to avoid the problem of excessive residence time of the screen saver image on any portion of the screen so as to avoid burn-in, obviously the system of Abe will keep the image in any one part of the screen a minimum amount of required time. Reference Dimitrova does state that the PIP region is moved around the screen based on activity, e.g. it is moved to areas of the screen that show the least amount of change so as to avoid obscuring important regions in the main window. Obviously, this technique could be utilized by Abe so that the system would move the window randomly to areas of the screen with little or no change (in an all-black window (Abe [0014-0015]) that would be most of the screen such that it would stay a minimum of time in any one part of the screen and would not exceed residence times anywhere on the screen). Motivation and combination are taken from the parent claim.

As to claim 5, obviously the Dimitrova reference generates a second image (e.g. the PIP video window) and displays it. However, it is unknown whether this is the intention of applicant. As such, the Abe reference clearly can generate arbitrary images

or animations, for example the fish cited in [0008] and shown in Drawings 3 and 7, see elements 42 and 61 in Drawing 3 specifically. Obviously, in either or both cases, there is an "image generation means" that generates and displays the fish animation, such that it moves around the screen and is so moved by the determining means. Obviously, such windows are superimposed as in Drawings 3 and 7 of Abe where one window moves around inside of another, and the Dimitrova reference moves the smaller PIP video window around inside the main video image as recited. Motivation and combination are taken from the parent claim. Further, in Sumikawa the secondary window and cursor are both superimposed on the main screen.

As to claim 7, clearly Abe teaches that the second image that is moved around the screen is resized randomly (see Drawings 1-2); obviously this encompasses "image size conversion means". Further, the system of Dimitrova is known to resize the PIP window as discussed at length above (see Fig. 4, steps 116 and 130) and it is known to let the user resize it as well 1:5-35. Motivation and combination is taken from the parent claim. Also, Dimitrova clearly teaches that the user can adjust the size of the PIP window, which is superimposed.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dimitrova in view of Sumikawa and Abe as applied to claim 5 above, and further in view of Ward.

The Dimitrova and Abe references do not expressly teach this limitation, while Abe teaches the generation of arbitrary animations and screen savers, which could obviously be icons. The Ward reference specifically (see Fig. 1) teaches the use of

icons, menus, and other such items in various windows in [0030, 0171-0173] that can be made transparent and/or translucent to the degree desired by the user, and teaches multiple windows (see the first rejection under 103(a) above for details on this particular point). Obviously, it would have been obvious to display the content of Ward in the PIP windows of Dimitrova or the second window / screen saver of Abe or the secondary window of Sumikawa, given that Dimitrova also teaches transparency (3:13-35) and Fig. 3 where the PIP transparency adjuster 62 is shown and in Figure 4 where the step of adjusting PIP transparency 110 is shown).

The Abe and Dimitrova references do not expressly teach this limitation, while the Ward reference does. Multiple windows can be repositioned and resized by the user. Obviously, any of those could be the recited “first window” and “second window” and obviously Abe and Dimitrova teach the moving and resizing of a PIP window, and the Ward reference teaches such a PIP as well as other windows for advertising, TV Guides, etc. Motivation and combination is taken from claim 6.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric Woods whose telephone number is 571-272-7775. The examiner can normally be reached on M-F 7:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ulka Chauhan can be reached on 571-272-7782. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Eric Woods

September 25, 2006


ULKA CHAUHAN
SUPERVISORY PATENT EXAMINER